

PUGET SOUND nearshore PROJECT



A partnership between the citizens and governments of the State of Washington and the U.S. Army Corps of Engineers and other federal agencies.

Why is the Puget Sound Nearshore significant?

The Puget Sound Nearshore is key to the life in the Puget Sound estuary. The estuary is a semi-enclosed, glacial fjord (long, narrow and deep inlet) where salt water from the ocean mixes with fresh water that falls as precipitation or drains from the surrounding land.

More than 10,000 streams and rivers drain into Puget Sound. Approximately 2,500 miles of shoreline surround the Puget Sound estuary, which is a mosaic of beaches, bluffs, deltas, mudflats and wetlands.

Much of the promise and potential of this region is based on natural resources and the industries, tourism and recreation these resources support. While much of the Sound is healthy, rapid growth and development in the region are stressing the system. A steady loss of habitat, alarming declines in some fish and wildlife populations, and closures of shellfish beds are signs that the very best of Puget Sound is threatened.

The Puget Sound Nearshore generally runs from the top of bluffs on the land across the beach to the point where light penetrates the Sound's water. It includes bluffs, beaches, shorelines, mudflats, salt marshes, gravel spits and estuaries. The nearshore boasts an essential, diverse and abundant network of plants and animals.

The Puget Sound's Nearshore environment depends on slivers of sunlight penetrating the waters to provide life to eelgrass meadows where migrating salmon feed and hide from predators. When the nearshore is healthy its flat, sandy areas are home to flounders, shrimp and worms, as well as kelp and other algae that provide food and hiding places for millions of other creatures that are integral to the Sound's food web.

Puget Sound is one of the nation's largest and most complex inland seas and it is an extremely unique ecosystem. Puget Sound boasts:

- Diverse flora and fauna ranging from kelp forests to orca whales;
- Wide tidal range that has created some of the largest, most productive estuarine environments in the world; and
- 2,500 miles of shoreline.

Puget Sound plays an integral role in the region's successful and growing economy; it is central to Washington state's economic prosperity and national significance. It provides:

- Prosperous salmon and shellfish industries;
- Access to numerous ports and refineries serving Northwestern states;
- Quality of life that attracts and inspires citizens who revolutionize high technology ranging from aerospace to the Internet and biotech; and
- Unique natural features for shipping and military facilities.

Puget Sound has experienced significant physical changes to its nearshore habitat as well as population declines in some of its best-known, important plant and animal species:

- Human development has modified one-third of the Puget Sound shoreline;
- Inter-tidal salt marsh habitat has declined 75 percent since the 1800s;
- Nine of the 10 species listed as endangered or threatened within the Puget Sound region inhabit the nearshore;
- Three Puget Sound salmon species have been listed as in danger of becoming extinct according to the federal Endangered Species Act; and
- Resident orca whale populations have declined significantly from 97 in 1996 to 78 in 2001.

Changes to the nearshore such as artificial structures (tide gates and bulkheads) and pollution from various sources including failing septic systems and agricultural and industrial activities can cause significant harm to the complex, fragile system.

Who needs the Puget Sound Nearshore?

For centuries, people have been drawn to the nearshore for economic and recreational purposes. Today, within the Northwest lifestyles and economies rely on the Puget Sound Nearshore.

Shellfish and salmon industries, ports and recreational activities all depend on the tidelands and shoreline.

What is the problem with the nearshore?

Life within the nearshore is in jeopardy. That jeopardy can result in further contaminated shellfish and reduced habitat not only for the aquatic environment, but also for people whose livelihoods depend on shellfish and fish, as well as others who enjoy boating and recreating on and near Puget Sound.

People have changed the nearshore much faster than plants and animals could adapt. Since 1970, 1.7 million people have been added to the population of Puget Sound, which now is home to 3.9 million people. By 2020, nearly 5 million people are expected to live in the Puget Sound region. If the nearshore is to survive, we must find ways to reverse the rapid deterioration of the ecosystem and dependent economy.

Development has modified shorelines and reduced the necessary movement of sediment, which is critical to successful spawning for forage fish and productive shellfish.

For example, the shoreline of Seahurst Park in Burien has been degraded by a rock intertidal structure built to assist public access. The result has been wide-scale changes in the beach shape, makeup and use by aquatic species.

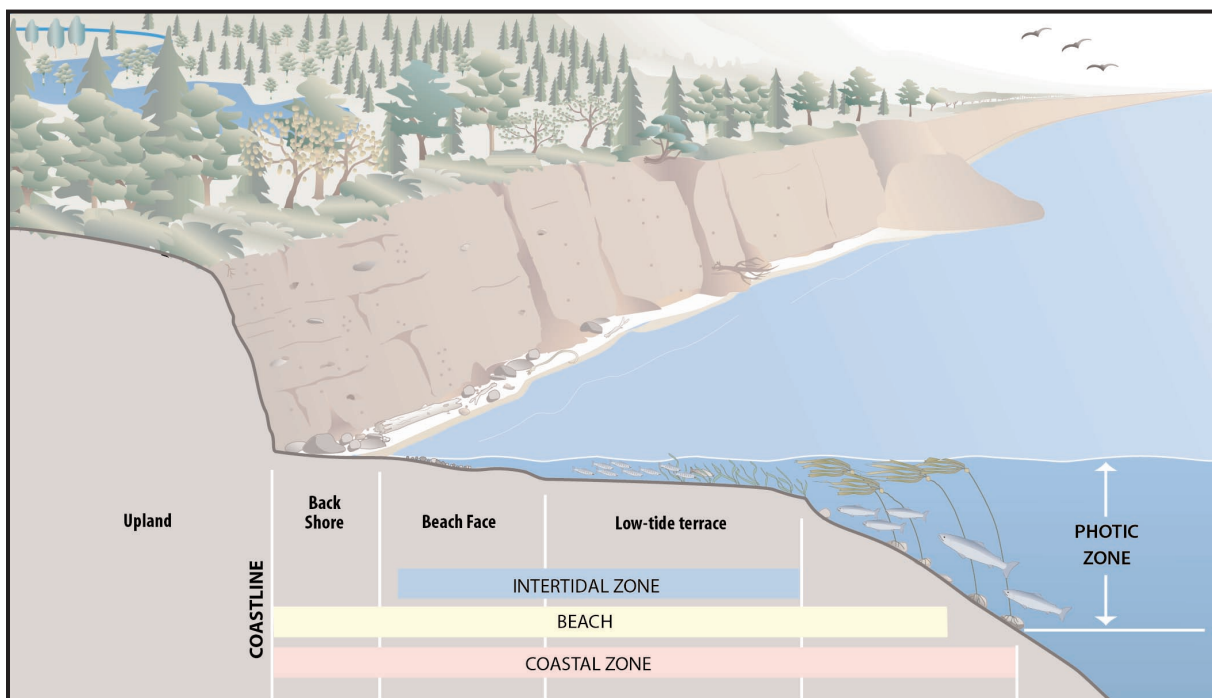
Federally Listed Species	Habitat Used		
	Uplands	Nearshore	Offshore
Bald Eagle	●	●	
Marbled Murrelet	●	●	●
Puget Sound Bull Trout	●	●	●
Aleutian Canada Goose	●	●	
Humpback Whale		●	●
Stellers Sea Lion		●	●
Hood Canal Summer Chum Salmon		●	●
Puget Sound Chinook Salmon		●	●
Spotted Owl	●		
Howellia Aquatilis	●	●	

Alterations to the Sound's productivity have traveled throughout the food web. Pollution in parts of Puget Sound has caused lesions and tumors in flatfish that eagles, seals, birds and porpoises eat. Populations of forage fish have declined because of urban and sub-urban development. Changes to shorelines have contributed to less and less habitat that is necessary for salmon and orca, which feed almost entirely on herring, baitfish and salmon.

What has been done to help the nearshore?

Many organizations have attempted to preserve and restore parts of the nearshore through a variety of methods. Within the past 30 years, small-scale restoration projects have resulted in some improvements; yet, the ecosystem continues to degrade at a rate faster than restoration has occurred. Local efforts have been made to protect critical habitat; however, the efforts have addressed a very small portion of the entire problem.

The Puget Sound Nearshore Project provides the necessary comprehensive and coordinated approach to establish priorities to improve and protect the health of the nearshore and the aquatic and marine life that depend on it.



Nearshore Section Illustrating Typical Zonation

State of the Nearshore Report

Courtesy of King County

Map produced by:
GIS and Visual
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